ATTACHMENT 8 –

Management of Livestock Grazing in Sage-Grouse Habitats on Lands Administered by the Bureau of Land Management in Wyoming
January 25, 2012

This policy addresses the need for guidance on management of livestock grazing to achieve sage-grouse habitat objectives on lands administered by the Bureau of Land Management (BLM) in Wyoming. It provides a basic framework for using Ecological Site Descriptions (ESD) and their State-and-Transition (S&T) models to identify grazing practices that are compatible with those objectives. It also provides concepts for annual management of residual cover to maintain or promote desirable plant communities and sage-grouse habitats.

This policy was written using information in the publication, "Grazing Influence, Objective Development, and Management in Wyoming's Greater Sage-Grouse Habitat" (Cagney et al., 2010). It is very important to read and understand that document in its context in order to effectively implement this policy. The intent is for District and Field Offices to apply the concepts in that document but in a manner that accommodates for biotic and abiotic differences between planning areas. As a result, this policy was written to provide a basic and broad approach that can be further refined as needed at the field level.

Please be aware that the Bureau is near completion of the Interagency Ecological Site Handbook for Rangelands. Part of the handbook's purpose is to implement a standardized system to define and describe rangeland ecological sites that are more efficient and defensible. Some ESD terms and concepts used in this policy (e.g. community phases) were therefore taken from that draft handbook when applicable, instead of the Cagney et al. (2010) publication, to provide a more consistent approach within Bureau guidance.

Steps for Application of Ecological Site Descriptions

1. Assess availability of soil surveys, Ecological Site Descriptions (ESD), and State-and-Transition (S&T) model data for the planning area. If data is lacking, do not proceed further and work on mapping soils and/or developing ESDs and S&T models.

2. Identify the predominant ESDs within the planning area that have states within the S&T model that provide sage grouse Seasonal Habitat Components (i.e., Across the Landscape, Lekking, Nesting, Early Brood-Rearing, Late Brood Rearing, Fall, Winter, and/or Migration). Include less common ESDs only if they play a significant role for sage grouse habitat in the planning area.

3. Identify the current state and community phase if available in the S&T model of the selected ESDs and include the acreage it encompasses within the planning area.

4. Identify the Seasonal Habitat Component(s) that the current state and its community phase provide for sage-grouse and whether it meets the desired habitat objective(s).

5. If there are multiple Seasonal Habitat Components for a state and its community phase, identify the one or ones that will be the focus, around which to develop a grazing

management strategy. Assess the capability and potential to manage for those sage-grouse Seasonal Habitat Components.

6. Where a less than optimal state and community phase exists for sage grouse, identify the management approach that needed for a transition/restoration pathway to a more desirable state or community phase within that state.

7. In the S&T model identify transition(s), restoration pathway(s), and/or community pathway(s) under various grazing strategies, disturbances (e.g. fire), or other activities. Consider the timing, intensity, duration, frequency, and sequence of the grazing activity and how that impacts the identified states and/or community phases within each state. A description of both long- and short-term impacts should be included. Consider other affects as well (e.g., drought, insects, non-livestock grazing/browsing, plant disease, climate/weather, and etc.) that would affect the grazing strategies if they have not already been identified in the S&T model.

8. When designing grazing management strategies for multiple identified states and community phases in a planning area, prioritize those that are at risk of transitioning to an undesirable state/community phase for sage-grouse.

9. Cross-reference your sage-grouse habitat management objectives with your selected grazing strategy using the S&T model to predict whether the expected outcome will be desirable. The strategy must provide or accommodate a restoration/community pathway if the desired state/community pathway is not present.

10. If the restoration/community pathway cannot be attained through grazing management alone, select a strategy that will maintain the current state/community phase until the needed inputs are available to reinitiate site progression. Once site progression is reinitiated toward a desirable state/community phase (e.g. prescribed fire), the grazing strategy must work in harmony with the pathway. If not, the strategy should be changed, which may include resting the area until it is suitable for a grazing strategy to resume.

11. Follow-up by collecting monitoring information (e.g., livestock actual use, utilization, vegetation condition/trend, climate, and etc.) and conducting land health assessments to verify that sage-grouse habitat objectives are being met or whether a new grazing management strategy if needed.

<u>Residual Cover Management Concepts</u>

- “Grazing influence on sage-grouse habitat is a function of both long-term management to promote desirable plant communities and annual management of the standing crop to provide cover for sage-grouse habitat. With few exceptions, leaving adequate residual herbage will provide for both long- and short-term objectives (Cagney et al., 2010).”

- It is important that the grazing strategy allow plant growth requirements to be achieved for the desired plant community identified within a state and community phase. Long-term management for plant health includes proper timing (e.g. allowing for critical growth periods and recovery from herbivory) and intensity (e.g. utilization, providing adequate litter/residual cover, and etc.). This should include giving consideration to duration, frequency, and sequence as well.

- Stock the pasture/allotment to achieve prescribed utilization goals, which must be applied to locations preferred by livestock. Do not include areas in the immediate vicinity to traditionally high concentration areas such as water troughs that would prevent a reasonable assessment of utilization.

- Identify riparian and upland plant growth seasons (see Figure 14, page 25 of Cagney et al., 2010) to assist in proper timing of grazing to meet plant growth requirements and plant community objectives. This will help provide the foundation for a sound grazing management strategy. Describe the timing, intensity, and the grazing strategy analysis for each plant growth season (i.e. Winter, Early, Critical Growing, and Late).

- Evaluate and manage for sufficient standing crop/residual cover to meet site specific sage-grouse habitat objectives (e.g. hiding cover, nesting, etc.) specific to that site in the planning area.

- Consider existing and/or proposed range improvement projects (e.g. fences, water troughs, etc.) and how it affects grazing patterns that directly or indirectly affect sage-grouse habitats. Examples include analyzing how the project would change the grazing intensity of an area or if it would fragment sage-grouse habitat. Consider if or how that impact could be mitigated (e.g. bird ladders, visibility markers for fences, and etc.).

- Work to address and prevent overuse areas by managing for good livestock distribution.

- Monitor, assess, and evaluate the grazing management strategy and whether objectives are being met. Monitoring would include vegetation trend/condition, actual use reports, utilization, and climate data.

State and Transition Model Component Terms (Draft - Interagency Ecological Site Handbook for Rangelands, 2010, p. 17-18)

State: A suite of plant community phases that interact with the environment to produce a characteristic composition of plant species, functional and structural groups, soil functions, and a characteristic range of variability. The state is defined with reference to plant community phases, dynamic soil properties, and animal populations that are linked to one another via feedback mechanisms. Alternative states differ in the operation of one or more *primary ecological processes* including the hydrologic (water) cycle, nutrient cycle, the process of energy capture and transformation (energy flow). Each state has distinct benefits and values depending upon the intended use, products, and ecosystem services desired from the site.

Transitions: Transitions describe the drivers and mechanisms of shifts between states. Transition is the trajectory of system change between states that will not cease before the establishment of a new state. A transition can be triggered by natural events (climatic events or fire), management actions (grazing, farming, burning, etc.) or both. Because alternative states are persistent and exhibit characteristic feedbacks and primary ecological processes, transitions may be irreversible, or at least do not reverse themselves within management timeframes (i.e. several decades). The trajectories of change between states which alter ecological structure and function require intensive management practices to reverse. Transitions may also occur quickly as in the case of catastrophic events like fire or flood, or a hurricane event. Thus, in practical terms, changes that warrant the use of accelerating practices and restoration technologies to return to the previous state can be considered to be transitions.

Restoration pathways: Restoration pathways describe the environmental conditions and practices that are required to recover a state that has undergone a transition. Remediation is included in this definition. Environmental conditions, for example, may include relatively high rainfall years. Practices include significant management inputs (e.g., chemical/mechanical treatments or planting) coupled to facilitating and management practices (e.g., fencing and grazing management prescriptions).

Community phases: Community phases are unique assemblages of plants and associated dynamic soil property levels that can occur over time within a state. In states that attain equilibrium, community phases are equivalent to seral or successional stages that may undergo orderly changes in response to natural disturbance, management, and succession. In states that do not attain equilibrium, community phases may shift from one to the other in complex ways depending on the interactions of climate, natural disturbance, and management. Community phases included in a single state will typically have similar floristics or functional groups, but may differ in dominant or subordinate species.

Community pathways: Community pathways describe the causes of shifts between community phases. In contrast to alternative states, shifts in community phases are reversible due to succession, short-term climatic variation, and facilitating practices such as grazing management. Collectively, the community phases represent the range of variation within a state, including conditions that place the state at risk of a transition.

Literature Cited

Cagney, J., E. Bainter, B. Budd, T. Christiansen, V. Herren, M. Holloran, B. Rashford, M.A. Smith, J. Williams. 2010. Grazing Influence, Objective Development, and Management in Wyoming's Greater Sage-Grouse Habitat. University of Wyoming Cooperative Extension Bulletin B-1203.

Caudle, D., J. DiBenedetto, M. Karl, H. Sanchez, and C. Talbot. Draft - Interagency Ecological Site Handbook for Rangelands. 2010. Bureau of Land Management.